New claims 1 to 17

1. A method of reactive power regulation in an electrical network (10), in which electrical power is produced by an electrical generator (3) preferably driven by the rotor of a wind power installation (2) and suitably modulated by means of a compensation device (16) between the generator (3) and the network (10) for the compensation of reactive power by adaptation of the phase and/or amplitude of the reactive power component of the delivered electrical power, characterised in that the compensation device (16) is so regulated that the electrical power delivered to the consumer (6) has a reactive power component which is adapted in respect of its phase and/or amplitude and in respect of its frequency to the consumer (6) to compensate for the reactive power in the consumer (6).

2. A method according to claim 1 characterised in that the compensation device (16) is so regulated that the electrical generator (3) produces capacitive reactive power in order to compensate for the inductive reactive power in the consumer (6).

3. A method according to claim 1 or claim 2 characterised in that the delivered electrical power is of a frequency which corresponds to the frequency of the reactive power caused by the consumer (6) or represents a multiple of said frequency.

4. A method according to at least one of claims 1 to 3 characterised in that the compensation device operates as an inverter (16).

5. A method according to at least one of claims 1 to 4 characterised in that the compensation device (16) measures the voltage and/or current configurations in the electrical network (10), preferably at the feed-in point (E) of the electrical power into the network, and in dependence on the

measurement results regulates the reactive power component in the electrical power produced by the electrical generator (3).

6. A method according to at least one of claims 1 to 5 characterised in that the voltage produced by the electrical generator (3) is regulated substantially to a predetermined reference value with suitable adaptation of the reactive power component in the electrical power delivered to the consumer (6).

7. A method according to claim 6 characterised in that adaptation of the reactive power component is effected by suitable control of the power factor ($\cos \varphi$) or the phase of the current produced by the electrical generator (3).

8. A method according to claim 6 or claim 7 in which the electrical generator (3) is connected to an electrical network by way of a line and/or a transformer, characterised in that the voltage produced by the electrical generator (3) is so regulated that the value thereof is of the order of magnitude of the value of the network voltage or corresponds to the value of the network voltage.

9. Apparatus for producing electrical energy in an electrical network (10), comprising an electrical generator (3) preferably driven by the rotor of a wind power installation (2) and a compensation device (16) between the generator (3) and the network (10) for the compensation of reactive power by adaptation of the phase and/or amplitude of the reactive power component of the delivered electrical power, characterised by a regulating device (14; 20, 22, 24) which regulates the compensation device (16) in such a way that the electrical power delivered to the consumer (6) has a reactive power component which is adapted in respect of its phase and/or amplitude and in respect of its frequency to the consumer (6) to compensate for the reactive power in the consumer (6).

10. Apparatus according to claim 9 characterised in that the regulating device (14; 20, 22, 24) regulates the compensation device (16) in such a way that the electrical generator (3) produces capacitive reactive power in order to compensate for the inductive reactive power in the consumer (6).

11. Apparatus according to claim 9 or claim 10 characterised in that the delivered electrical power is of a frequency which corresponds to the frequency of the reactive power caused by the consumer (6) and represents a multiple of said frequency.

12. Apparatus according to at least one of claims 9 to 11 characterised in that the compensation device (16) has an inverter (16).

13. Apparatus according to at least one of claims 9 to 12 characterised in that the regulating device (14; 20, 22, 24) has a measuring device (12; 18) for detecting the voltage and/or current configurations in the electrical network (10), preferably at the feed-in point (E) of the electrical power into the network.

14. Apparatus according to claims 12 and 13 characterised in that the regulating device (14; 20, 22, 24) controls the inverter (16) in dependence on the measurement results of the measuring device (12; 18).

15. Apparatus according to at least one of claims 9 to 14 characterised in that the regulating device (14; 20, 22, 24) regulates the voltage produced by the electrical generator (3) substantially to a predetermined reference value by control of the reactive power component in the electrical power delivered to the consumer (6).

16. Apparatus according to claim 15 characterised in that the regulating device (14; 20, 22, 24) effects adaptation of the reactive power

component by suitable control of the power factor (cos φ) or the phase of the current delivered by the electrical generator (3).

17. Apparatus according to claim 15 or claim 16 in which the electrical generator (3) is connected to an electrical network by way of a line and/or a transformer characterised in that the regulating device regulates the voltage produced by the electrical generator (3) in such a way that the value thereof is of the order of magnitude of the value of the network voltage or corresponds to the value of the network voltage.